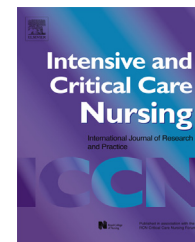




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ORIGINAL ARTICLE

A non-pharmacologic approach to decrease restraint use



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KEYWORDS

Restraints;
Delirium;
Sedation;
CAM-ICU;
Nurse perception;
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Summary

Aims: To evaluate an education intervention to decrease restraint use in patients in a Trauma Intensive Care Unit (TICU) and to evaluate nurses' perceptions regarding restraints.

Objectives: To measure restraint use pre/post-intervention and to measure nurses' perceptions of restraint use.

Methods: Pre/post-intervention design to collate incidences of delirium and restraints pre/post-intervention. Data reporting nurses' views and preferences were collected pre-intervention.

Measures: Patients were assessed by nursing on admission and every shift with the Confusion Assessment Method for TICU. Restraint use was measured in a 24-hour period. Nurses' perception of restraints was measured using Perceptions of Restraint Use Questionnaire (PRUQ).

Results: A statistically significant difference was demonstrated in restraint use before and after the educational intervention. Mean and standard deviation for restraints per 1000 patient days pre-intervention was 314.1 (35.4), post-intervention 237.8 (56.4) ($p=0.008$). Mean PRUQ overall, 3.57 (range 1–5) indicated that nurses had positive attitudes towards restraints in certain circumstances. The primary reasons for using restraints were: "protecting patients from falling out of bed", 37 (72.5%), and "protecting patients from falling out of chair", 34 (66.7%).

Conclusion: This study demonstrates that a low risk educational intervention aimed at use of an alternative device use can reduce restraint use.

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Implications for Clinical Practice

- A non-pharmacologic approach demonstrates an innovative intervention that is low risk, noninvasive, with no adverse side effects, and can be implemented at the bedside by nurses.
- A statistically significant difference was demonstrated in restraint use before and after the educational intervention.
- Demonstrates that a low risk, educational intervention aimed at use of an alternative device can reduce restraint use.
- Lack of non-pharmacologic interventions, education, and nurse attitudes are reported barriers in implementing alternatives to restraint use.

Introduction

Despite ongoing initiatives to decrease the incidence of restraint use, patient restraints are used more frequently in an acute care setting due to increased use of invasive devices including arterial lines, endotracheal tubes and intravenous catheters (Mistraletti et al., 2012). Reasons for restraint use may include fall prevention, prevention of self-harm and preventing removal of medical devices (McCabe et al., 2011; Mistraletti et al., 2012). Strangulation, muscle loss, pressure ulcers, incontinence, contractures, cognitive and functional impairment, agitated behaviours, psychological distress and death have been reported in hospital settings from physical restraint use (Mistraletti et al., 2012; Tolson and Morley, 2012). In the ICU setting, harm from physical restraints include hypertension, tachycardia, worsening agitation, discomfort, delirium, anxiety, panic attacks, impaired circulation, aspiration, pressure ulcers, nerve injury, falls, nosocomial infections and depression (Tolson and Morley, 2012). While delirium is often overlooked and under diagnosed in hospitalised adults, 70–87% of delirium occurs in intensive care units (ICU) (Mittal et al., 2011). Restraints are still used as an intervention to prevent falls, despite evidence of increased severity of fall injuries with restraint use (Shaver et al., 2011; Tolson and Morley, 2012). Managing agitated patients who are at risk for delirium with physical restraints can potentially lead to a decline in functional and cognitive status, causing increased agitation, risk for injury and an increased duration of delirium (Scherder et al., 2010). Lack of non-pharmacologic interventions, education and nurse attitudes are reported barriers in implementing alternatives to restraint use (McCabe et al., 2011; Mistraletti et al., 2012).

The Center for Medicare and Medicaid Services (CMS) defines a restraint as any manual method, physical or mechanical device, material or equipment immobilising or decreasing the ability of a patient to move arms, legs, body or head freely in all hospital settings (Centers for Medicare and Medicaid Services, 2008). The CMS standard is designed to protect patient rights, ensure patient safety and decrease improper use of restraints. Restraints are recommended to promote immediate physical safety of the patient, staff or others, but should be stopped when there is no longer a need (Centers for Medicare and Medicaid Services, 2008). A comprehensive patient assessment is recommended to identify specific medical problems such as patient agitation due to pain, where upon resolution of pain, restraints would not be necessary (Centers for Medicare and Medicaid Services, 2008). The Joint Commission (TJC) in 2009 revised their

use of restraints with a greater emphasis on education and training, using the least restrictive device, and removing restraints as soon as the patient was clinically safe (Cospers et al., 2015).

The British Association of Critical Care Nurses (BACCN) position statement on the use of restraints in adult critical care patients includes facilitating care of the patient, not to be used as an alternative to inadequate human or environmental resources, only to be used when alternative therapeutic measures have been ineffective, be based on a patient assessment, have guidelines in place for restraints, continued patient assessment to warrant continued need, patient and family involvement in decision and choice of restraints, and staff education on chemical, physical and psychological restraint involving training and competency programmes in critical care units (Bray et al., 2004). Considerations for managing delirium and agitation among nurses practising in the United Kingdom include using a validated tool to assess for delirium, correct the cause for delirium, review current medications, and use non-pharmacologic measures to prevent delirium (Bray et al., 2004).

A non-pharmacologic approach can be effective in improving mood, function and behaviour by providing tactile, auditory and visual stimuli which enhance cognitive function, perceptual processing, neuromuscular strength and diversion (Hipp and Ely, 2012). Non-pharmacologic approaches to reduce the incidence of restraint use can include early mobilisation, nutritional assistance, therapeutic and cognitive stimulating activities, music, ear plugs, eye masks, patient orientation, familiar objects in room, hearing aids and glasses, dentures and comprehensive geriatric assessments (Dijkstra et al., 2010; Jones & Dawson, 2012; Korhan et al., 2011; Van Rompaey et al., 2012).

Literature review

A review of literature evaluating non-pharmacologic approaches instead of restraints in hospitalised adults was conducted to characterise the strengths and limitations of this body of literature. Procedures included manual and computerised literature database searches of articles in the English-language literature from 2008 to present. The following databases were initially accessed: MEDLINE, PubMed, CINAHL, PsycINFO and EBSCO host. Key search terms used included alternative, intensive care unit, non-pharmacologic approach, non-pharmacologic strategy, restraints, barriers, nursing knowledge, with search terms narrowed over time. The search was conducted using terms both separately and in combination with each other.

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